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# Engineering a more sustainable future.

Investor Seminar

29 June 2022



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# Investor Seminar

Welcome and Context.

**Nimesh Patel**  
Chief Financial Officer



# Today's agenda

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**Session 1**  
**Welcome and context**  
Nimesh Patel



**Session 2**  
**ETS strategic fit**  
Nicholas Anderson



**Session 3**  
**Introducing ETS**  
Armando Pazos



**Session 4**  
**Why ETS is differentiated**  
Christopher Molnar



**Session 5**  
**Drivers of growth**  
Armando Pazos



**Session 6**  
**What ETS will deliver**  
William Croyle



**Session 7**  
**Q&A**  
Nimesh Patel

## Group update

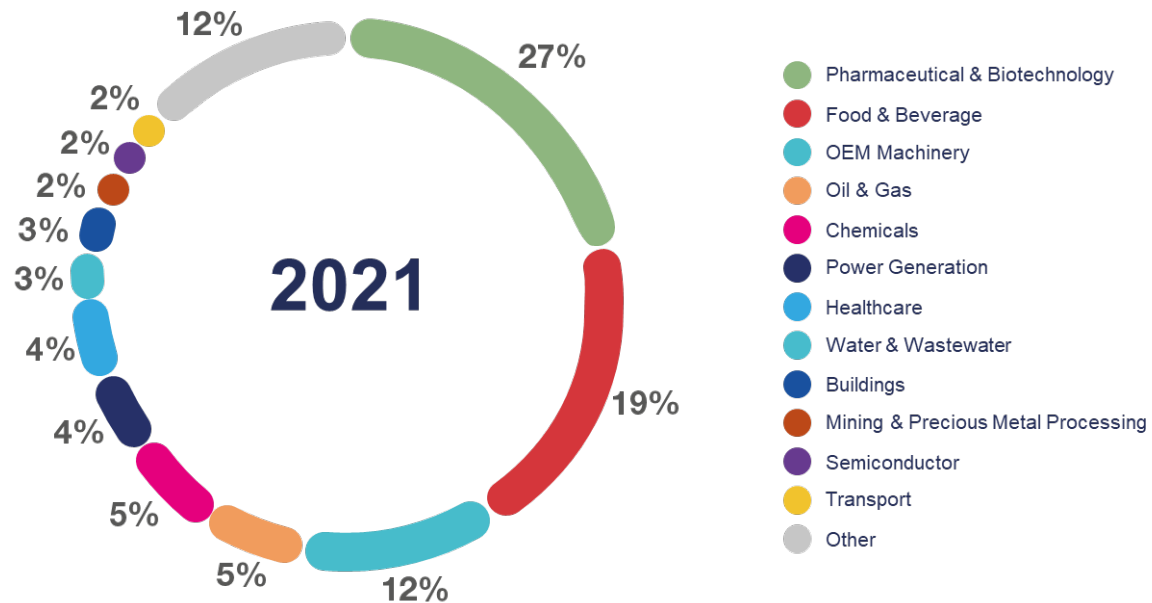
- Global IP now forecasted at 3.6% for 2022, down from 4.4% in February
- Strong demand and order books remain at all time highs
- China lockdown impact in H1; no impact on full year absent further lockdowns
- Manufacturing capacity expanded and supply chain disruption being managed
- Active price management offsetting inflation; no impact on margin
- Continued revenue investments; FY margin expected to be above pre-pandemic levels
- Higher capex in 2022 reflecting capacity expansions; balance sheet remains strong

**Our full year expectations remain unchanged**

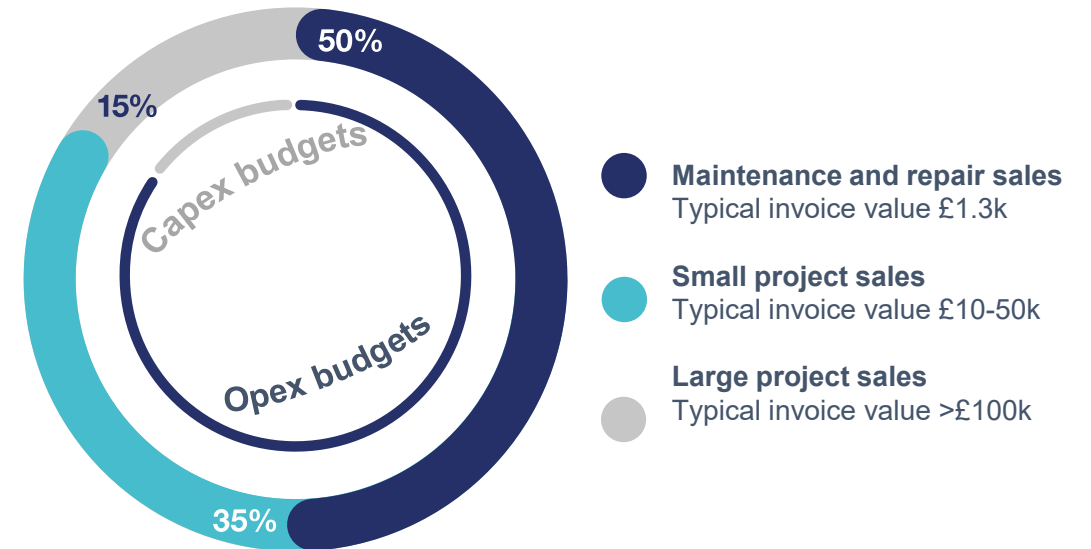


# Sources of our resilience

Over 60% of Group revenue derived from defensive, less cyclical end markets



85% of Group revenue generated from annual maintenance and operational budgets



# Our value proposition

## Benefits of our direct sales approach

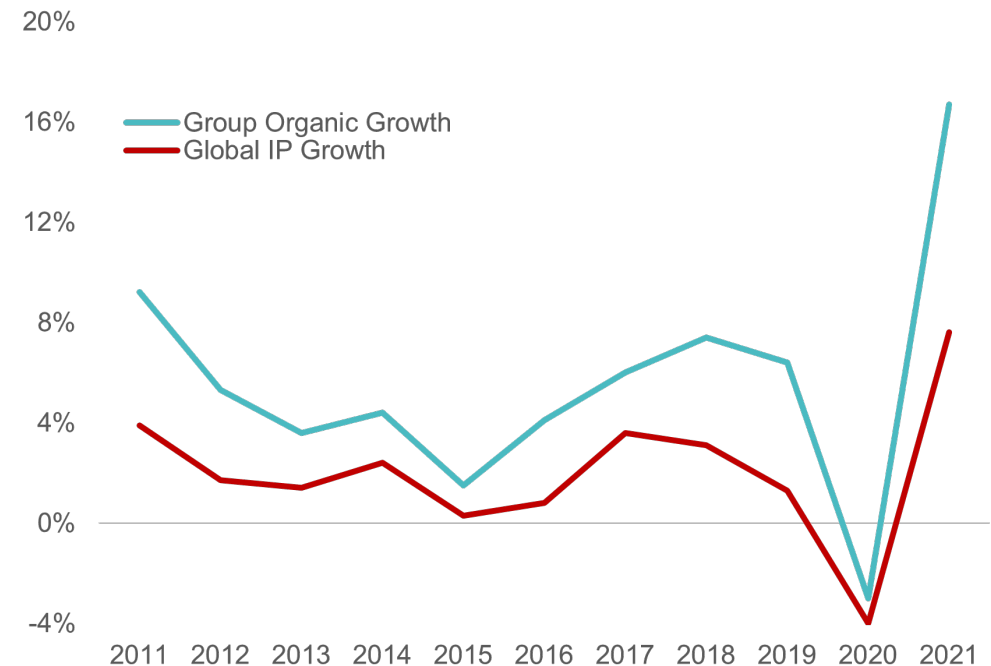
  
**2,000 direct  
sales and  
service  
engineers**

- **Productivity and reliability**
- **Sustainability**

Solutions to meet customers' critical needs through the cycle

- **Efficiency and cost**
- **Sustainability**

## Sustained organic growth above IP



# Our long term investment case

## Long Term Addressable Market Growth

Continued growth in  
global Industrial  
Production (IP)

...driven by population  
growth and emerging  
markets development

Demand for energy  
efficiency solutions...

...in response to  
growing demand for  
energy

Demand for  
decarbonisation  
solutions...

...in response to the  
global goal of  
achieving net zero

## Financial Track Record

Delivery of  
organic  
revenue  
growth >IP

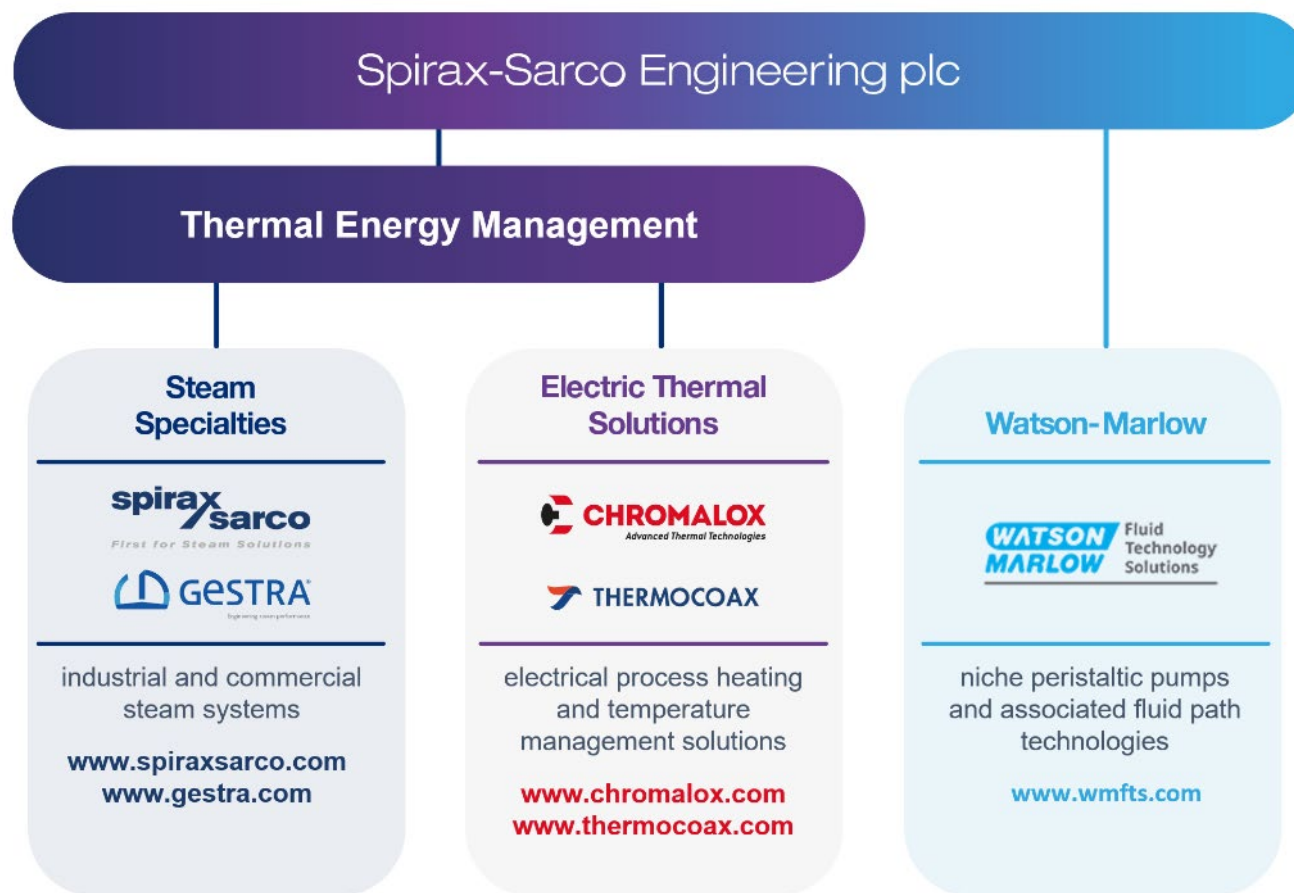
Attractive  
margins

Strong cash  
generation

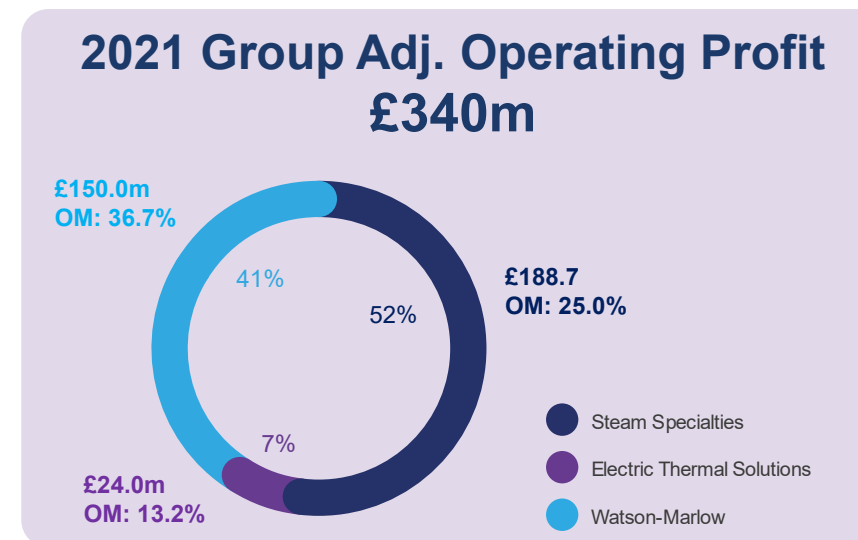
Earnings  
and  
dividend  
growth

# ETS within our Group

Three world-leading niche businesses



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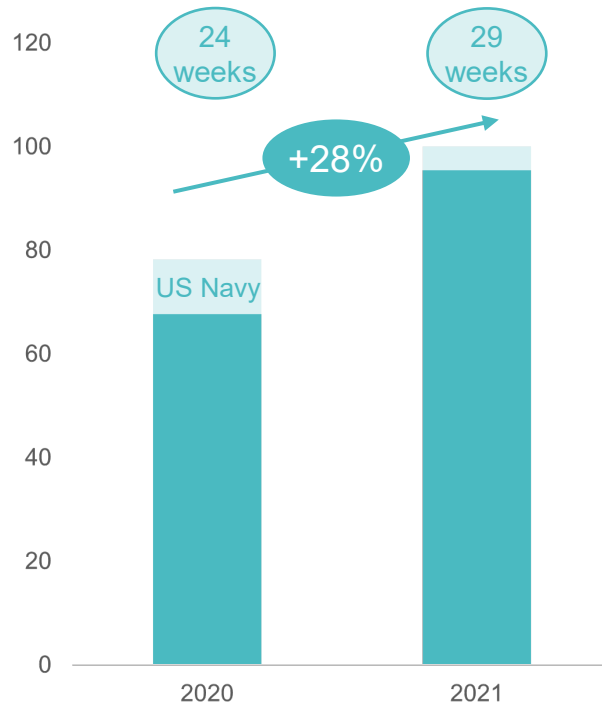




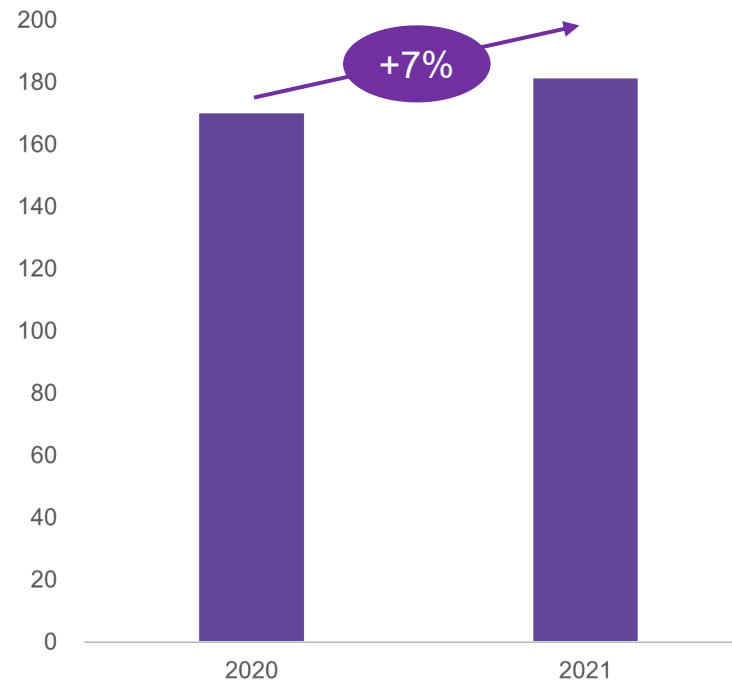
# ETS financial performance

Demand growth ahead of sales

Year End Order Book (£m)



Revenue (Organic, £m)

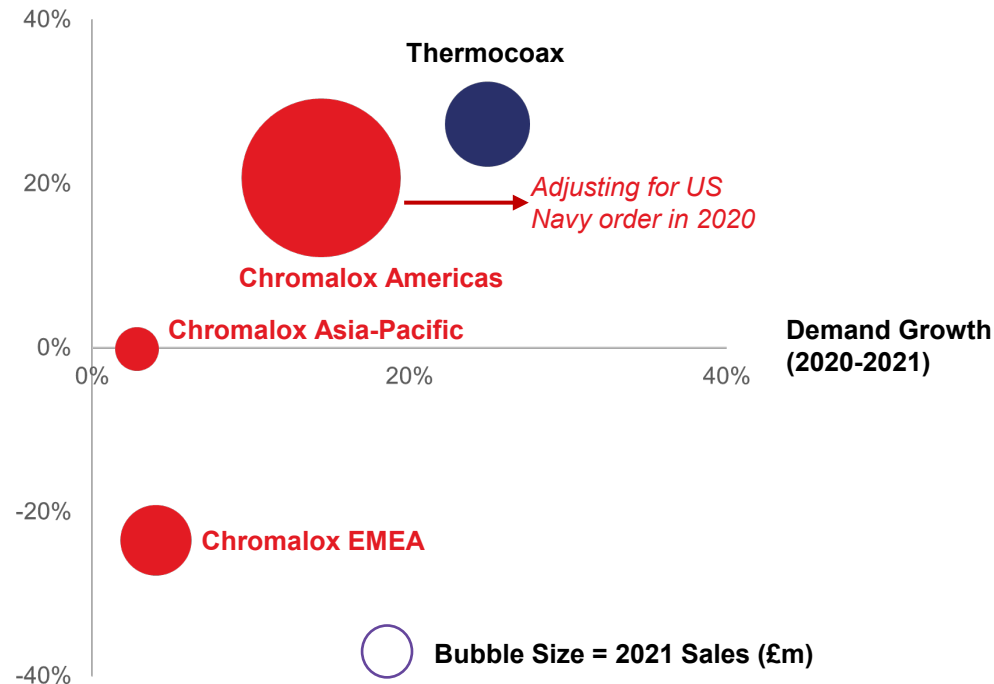


- Strength of demand reflected in year end order book, growth of >40% (adjusted for US Navy order in 2020)
- Significant demand growth in Thermocoax driven by semiconductor sector
- Growth in Chromalox limited by Ogden capacity and shipment constraints in 2021

# Margin performance by Business

Profitable growth in Thermocoax and Chromalox Americas

Average Adj. OP  
Margin (2020-2021)



- Thermocoax margins already above Group average levels and demand growth strong
- Chromalox Americas a large, growing business and achieving 20% margin objective
- Chromalox APAC improvement opportunity through embedding Group sales approach
- Chromalox EMEA performance impacted by profitability of site in Soissons, France

# Actions regarding Soissons

## Process Update

- Announced formal consultation process with trade unions to address financial challenges at Soissons; negotiations on-going
- Consultation expected to complete in August based on legal framework; should be followed by validation by the French labour administration
- In the event that the consultation results in collective dismissals, we expect key aspects of the process to be completed by end December 2022
- 61 colleagues impacted by announcement; we continue to provide them with support

## Financial Impact

- Costs relating to the process expected to be removed from 2022 Adjusted OP margin
- Operating losses of 2022 will be reflected in the ETS margin; no change to guidance

# Summary

- Demand for ETS solutions remains strong and order books are at record highs
- Key businesses are already at or above Group level margins
- We are addressing the loss making situation in Soissons and the capacity constraints in Ogden
- We will continue to see impact on 2022 financial performance as we work through these initiatives
- We expect to achieve an improved ETS margin performance in 2023



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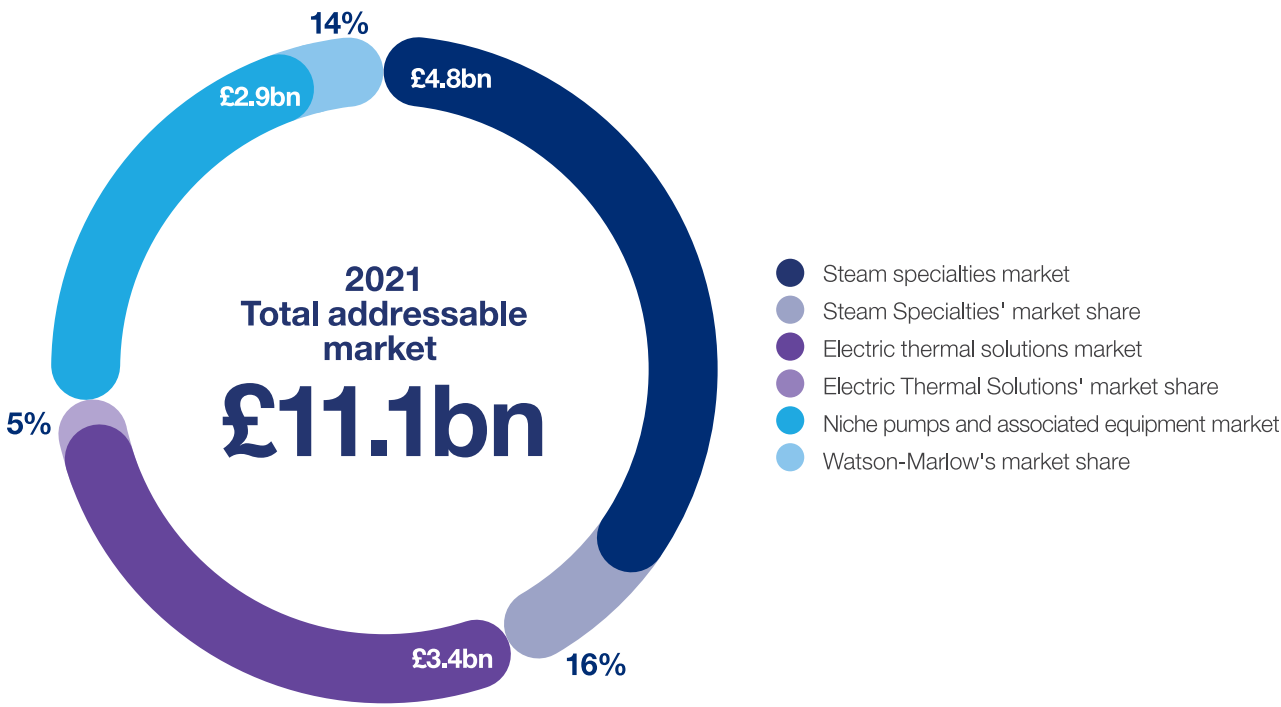
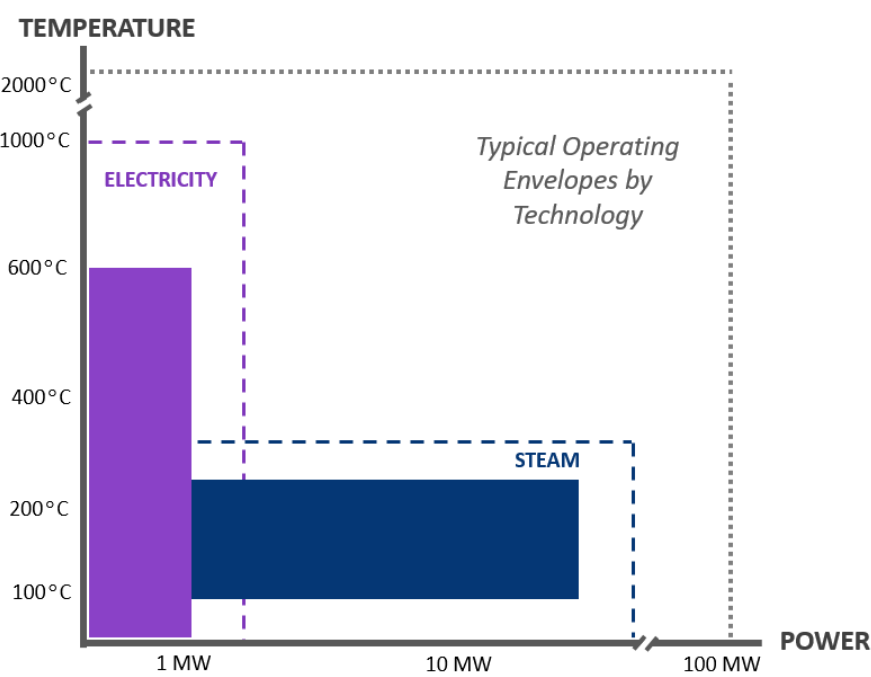
# ETS Strategic Fit

**Nicholas Anderson**  
Group Chief Executive



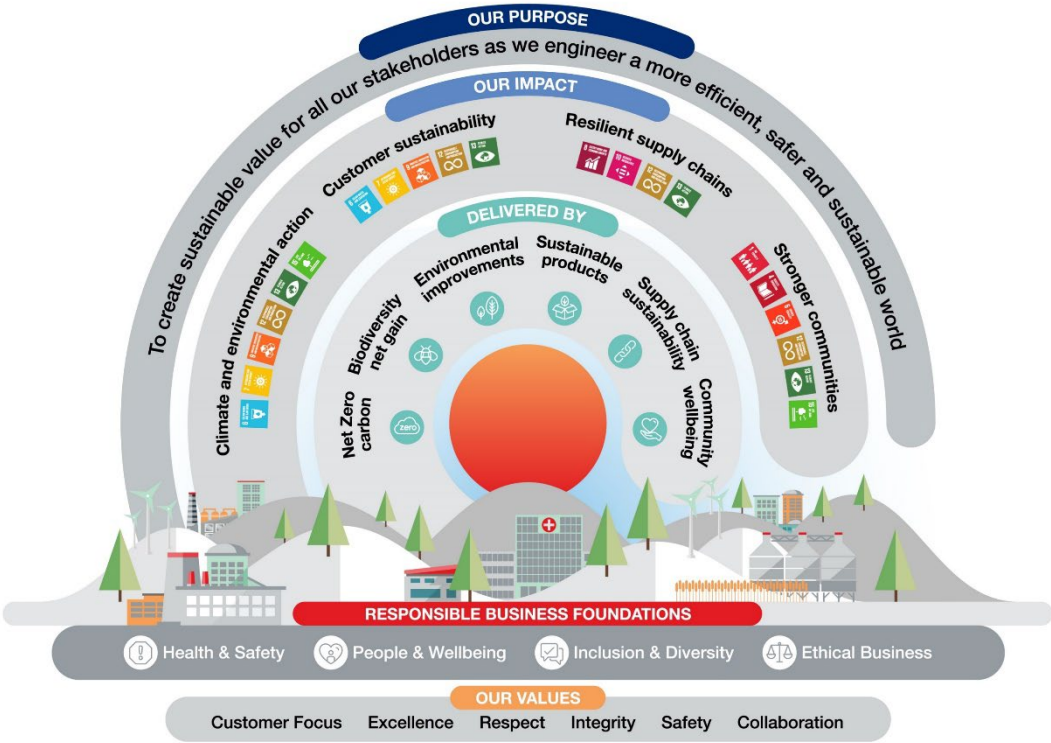
# Why ETS fits with Steam Specialties

Attractive, complementary market to Steam Specialties

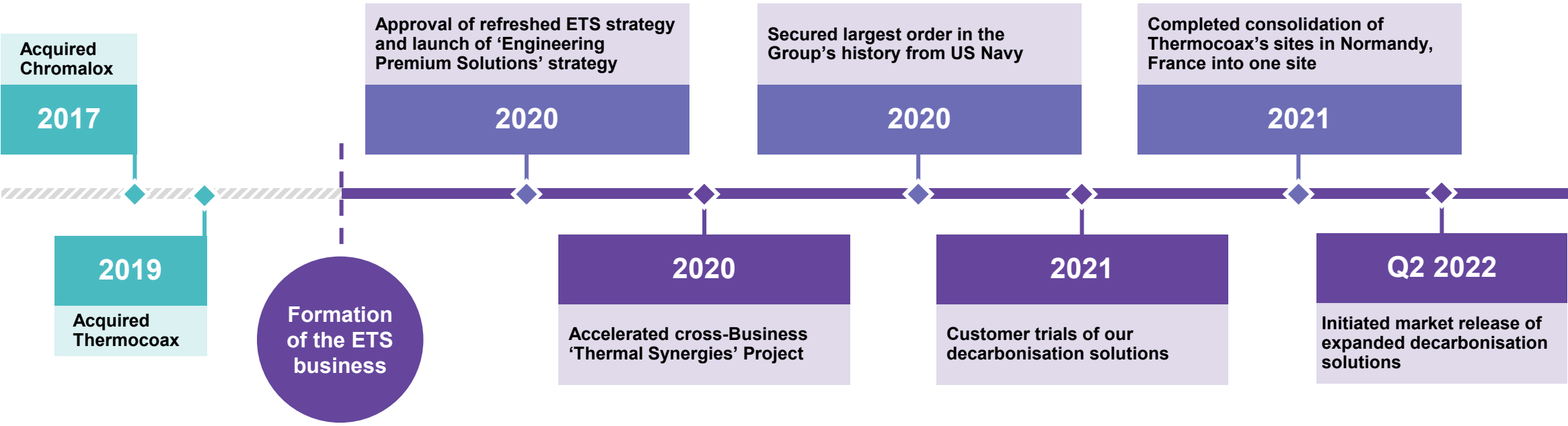


# Why ETS fits with the Group Business Model

Fit with our Group business model and One Planet Sustainability Strategy



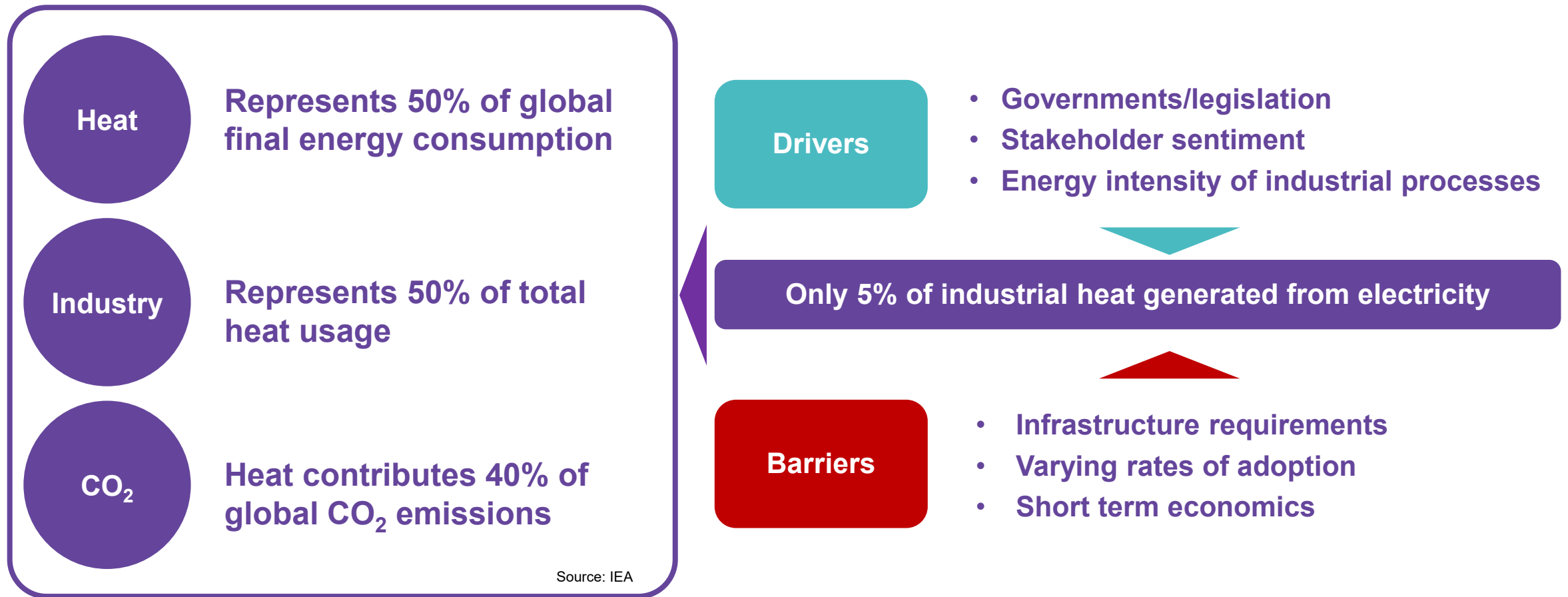
# Progress in ETS to date





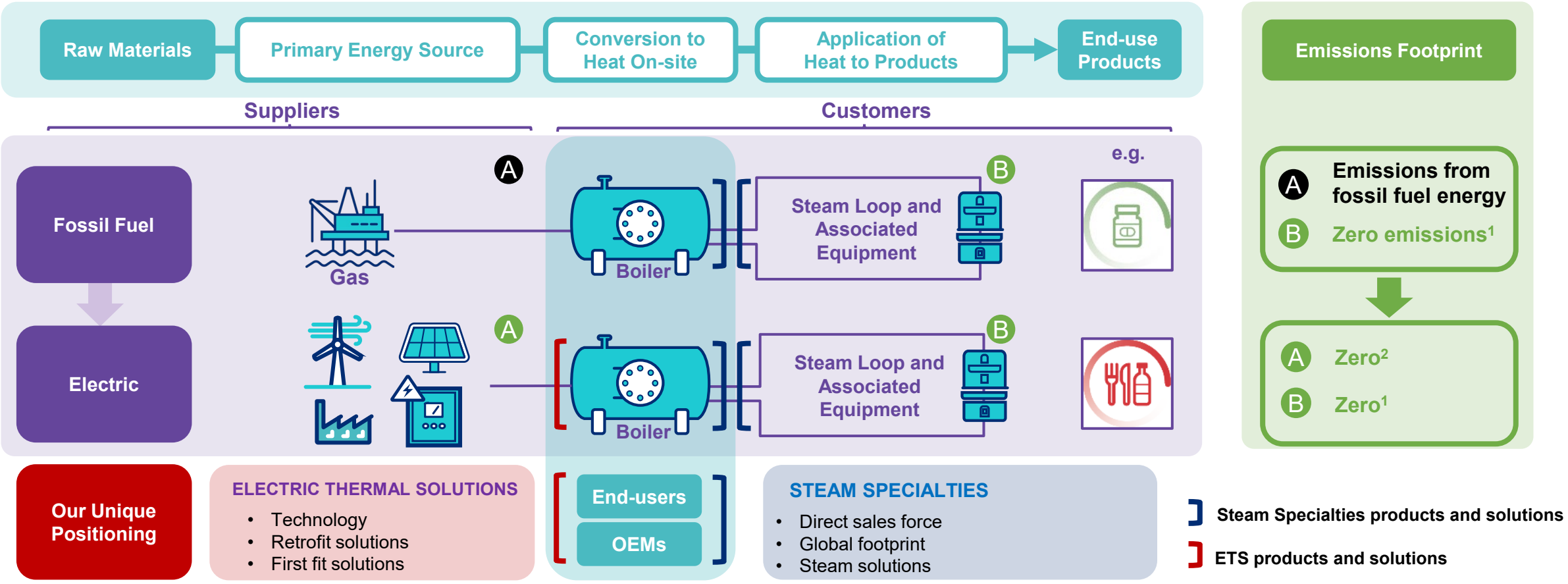
# Drivers of the decarbonisation opportunities

30+ year opportunity



# Decarbonising steam generation

Our unique position



1. Steam system does not generate any direct emissions; 2. If power sourced from renewables or green energy contracts

# Implications for our growth

From the drive towards decarbonisation

- Industrial electric heating market is complementary to our Steam Specialties market
- ETS provides access to a significant addressable market with headroom for growth
- ETS has a clear fit with our business model and supports our One Planet Sustainability Strategy
- Decarbonisation will be an additional growth driver for decades to come
- Our Group is uniquely positioned to capitalise on these long-term growth opportunities

**Supporting sustained growth greater than 2x IP long into the future**

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# Introducing ETS

**Our Business Overview.**

**Armando Pazos**

President, Electric Thermal Solutions



# An experienced leadership team



# Introducing ETS

Key topics to cover

**Our Businesses**

**Competitive Landscape**

**Our Technologies and Products**

**Opportunities for Growth**

**Solutions, Sectors and Coverage**

**Leveraged through our  
Group and Strategy**

# Electric Thermal Solutions

What we do

**Uses:** electric heating for mission-critical industrial processes, freeze protection for pipes, valves and tanks, and component heating

**Products:** Industrial Heaters & Systems; Heat Tracing; Component Technologies; Mineral insulated cable

**Benefits of Electric Solutions:** easy to incorporate, install and maintain; high temperatures; efficient, reactive power control; no emissions at point of use

**Delivering:** efficient thermal energy management and control solutions for improved industrial processes



Heat and Control

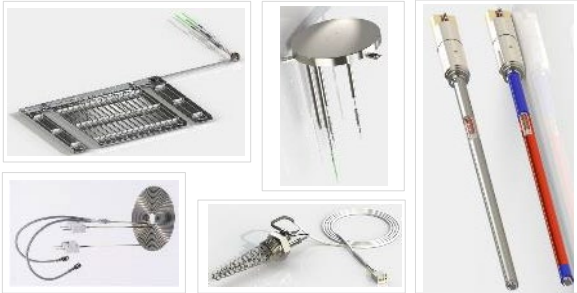


Packages



Pre-fabricated engineered packages for process heating and temperature management

Heating



Sensing



Highly customised and engineered mineral insulated cable for heating and sensing applications

Customers’ first choice for premium engineered electric thermal solutions in sustainable applications



# Introducing our three product segments



**Industrial Heaters & Systems**

Complex process heating solutions for mission critical industrial processes. Including our Medium Voltage technology solutions.



**Component Technologies**

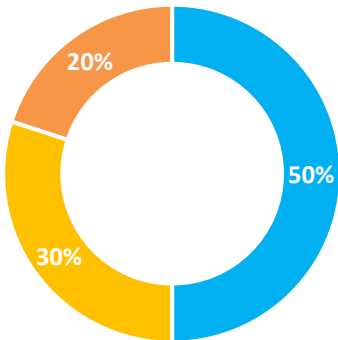
Discrete heating and sensing solutions for industrial equipment manufacturers to enable optimal performance of systems.



**Heat Trace**

Thermal management solution for piping, valves and tanks for freeze protection and temperature maintenance.

**2021 Sales by Product Segment**



- Industrial Heaters & Systems
- Component Technologies
- Heat Trace

# Product segments by sector

Examples of where our products are utilised

TEMPERATURE HEATING SOLUTIONS



COMPONENT HEATING SOLUTIONS



BUILDING AND CONSTRUCTION



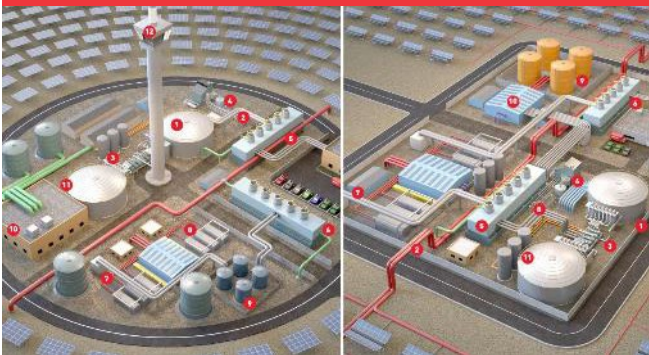
POWER GENERATION



PHARMACEUTICAL



SOLAR



# Geographic coverage

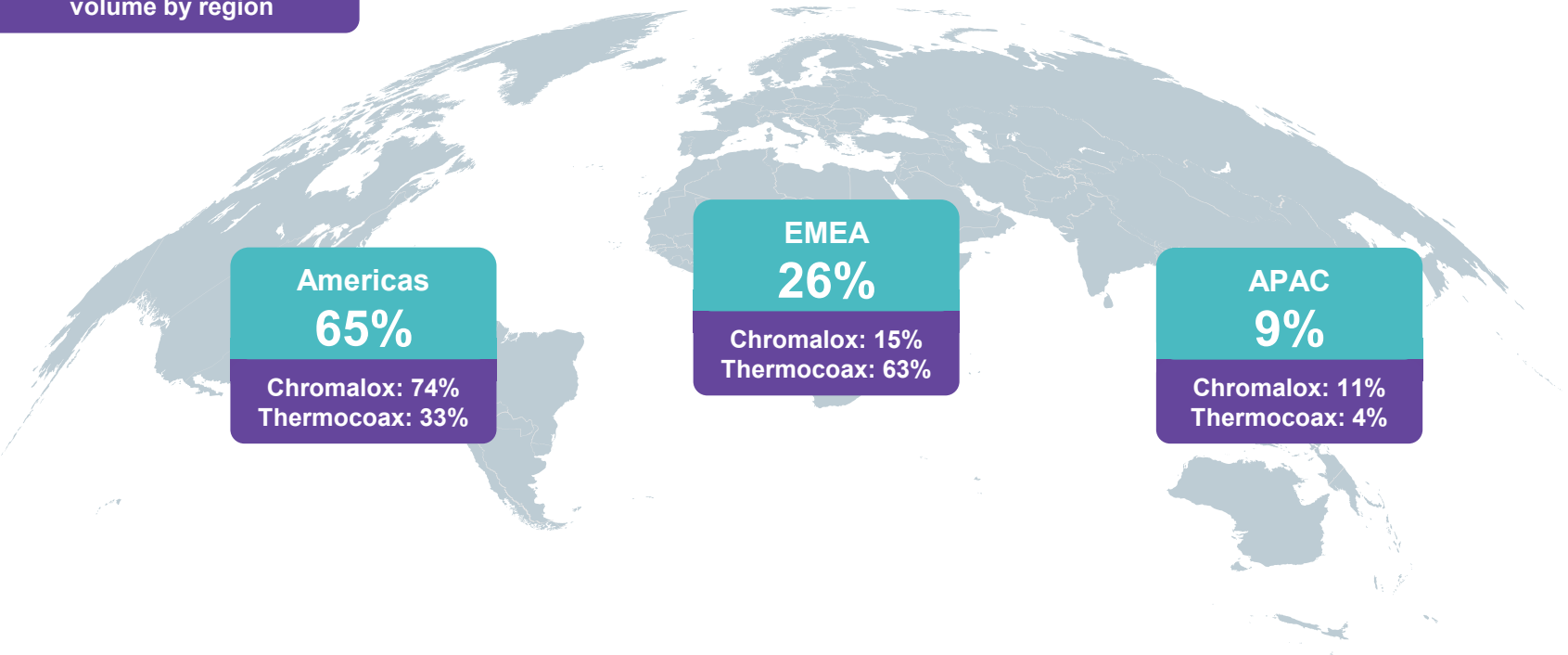
2021 sales by region

## ETS key facts:

- Over 1,500 colleagues
- Over 165 direct sales & service engineers
- Direct sales presence in 19 countries
- Serving customers in 98 countries
- Greater presence in the Americas vs. EMEA and APAC

## ETS volume mix by region

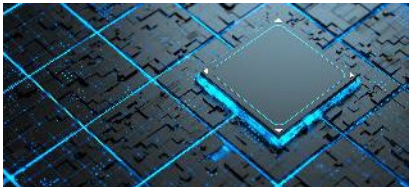
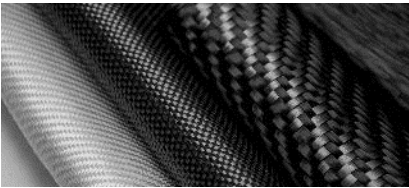
### Chromalox & Thermocoax volume by region















# Strategic sector focus

Four strategic sectors with ten subsectors



| Sector     | Energy Transition   | Materials  | Advanced Technology   | Health and Nutrition   |
|------------|---|--|---|--|
| Subsectors | <div> Sustainable Energy</div> <div> Nuclear</div> <div> Oil &amp; Gas Processing</div> | <div> Building &amp; Construction</div> <div> Engineered Chemicals</div> <div> Composites &amp; Plastics</div> | <div> Semiconductor</div> <div> Aerospace &amp; Defence</div> | <div> Pharmaceutical &amp; Biotechnology</div> <div> Food &amp; Beverage</div> |

Providing critical solutions to mission critical industrial processes

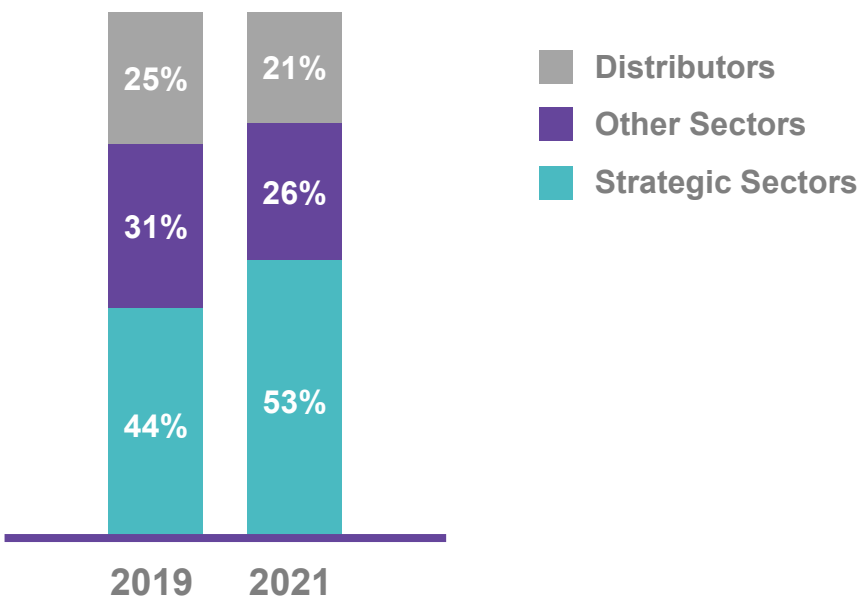
# Implementing our strategy

Shift in sales by sector and channel



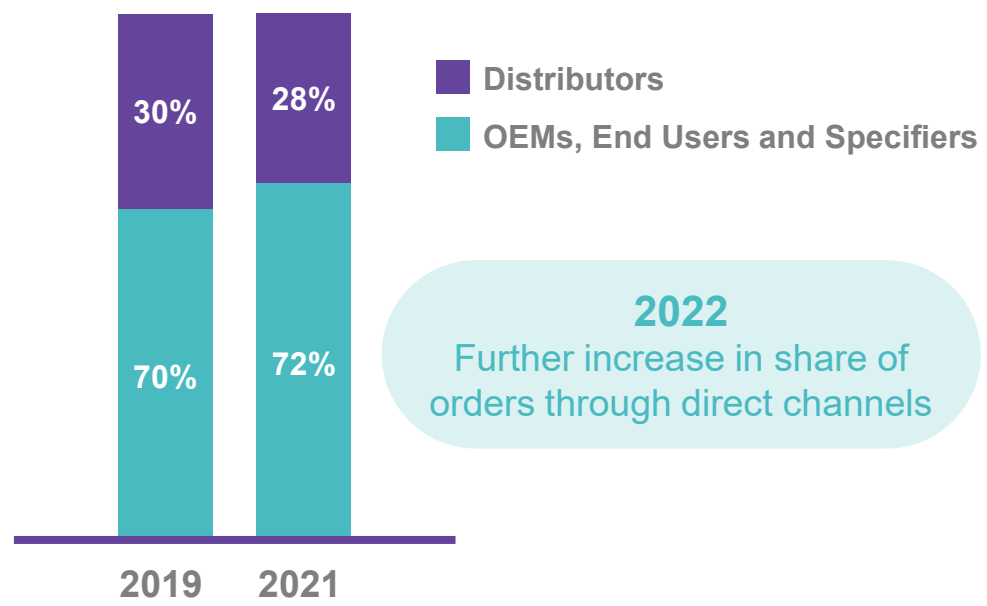
Increased focus on strategic sectors

Sales by sector



Increased focus on direct sales

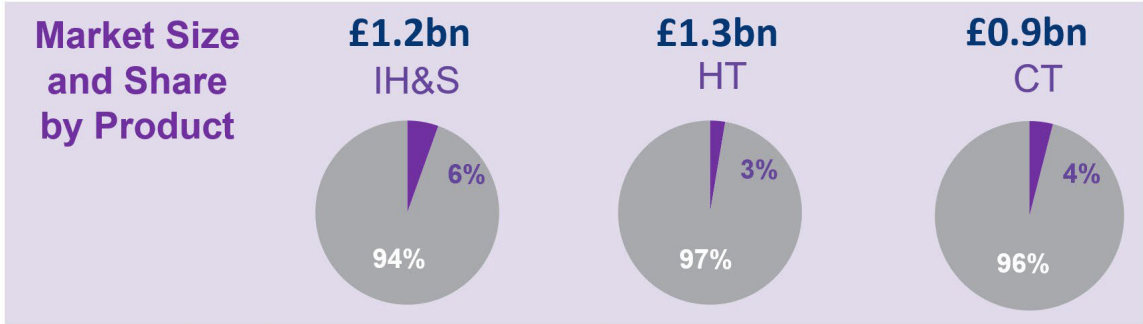
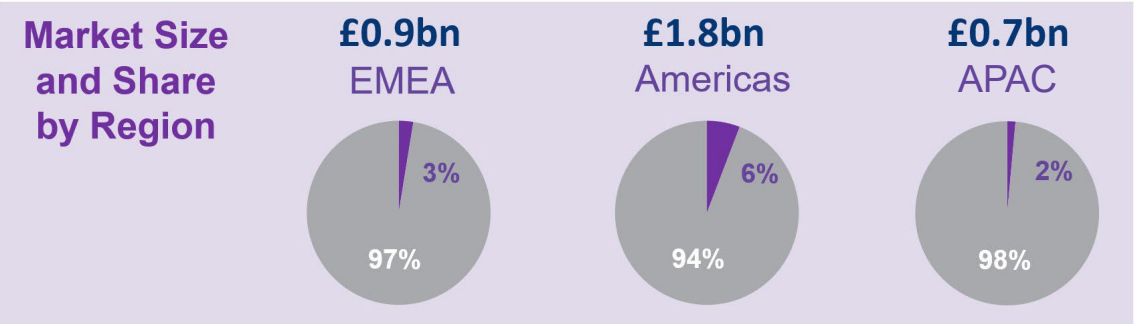
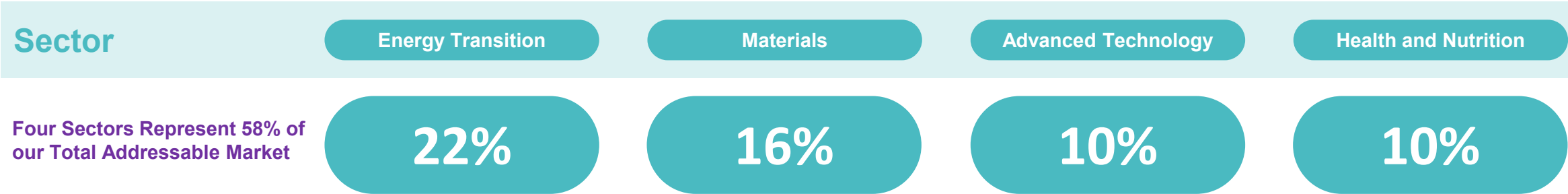
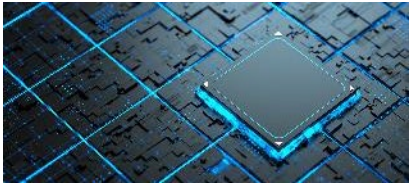
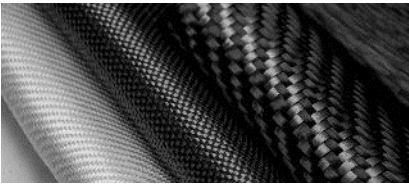
Sales by channel



**2022**  
Further increase in share of orders through direct channels

# Market dynamics

Global addressable market for ETS is £3.4 billion



# Fragmented competitive landscape

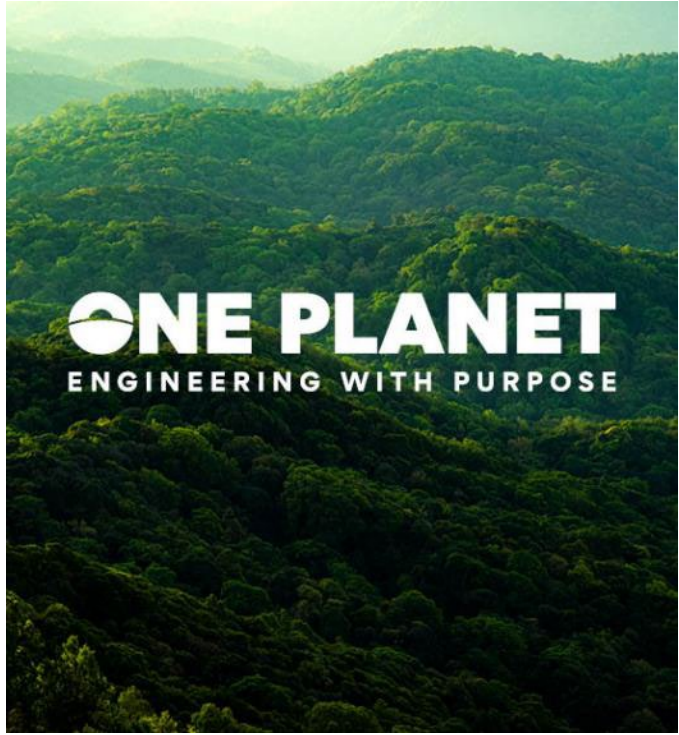
Our competitive advantages





# Leveraging the strength of our Group

Accelerating ETS from a strong foundation



# Delivering through our strategy and people

Engineering Premium Solutions

## Our Vision

To be our customers' first choice for premium engineered electric thermal solutions in sustainable applications.

## Our Mission

To participate in our customers' success with superior performance, expertise, and partnership in mission critical electric thermal solutions.





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# Why ETS is differentiated

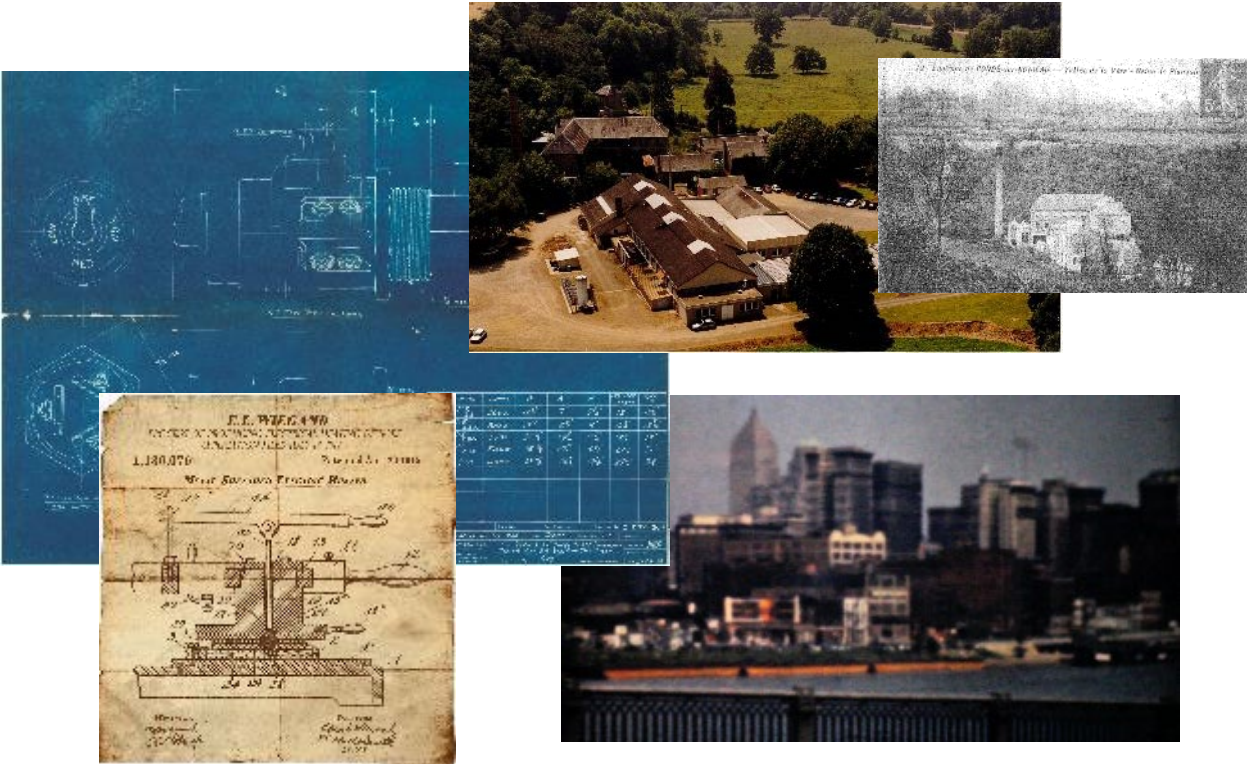
Our unique capabilities.

**Christopher Molnar**  
VP, Business Development, ETS



# A history of meeting customers' changing needs

Through a culture of innovation and problem solving



## CORE COMPETENCIES:

- A deep understanding of our customers' challenges
- Very broad knowledge about our customers' processes
- Unparalleled engineering expertise in our industry
- Recognised as the highest performing solutions

## APPLIED TECHNOLOGY PLATFORMS:



Material and Welding Sciences



Thermal and Fluid Dynamics



Customised Computer Modeling

## COMPONENT TECHNOLOGY PLATFORMS:



Metal Sheath Heating



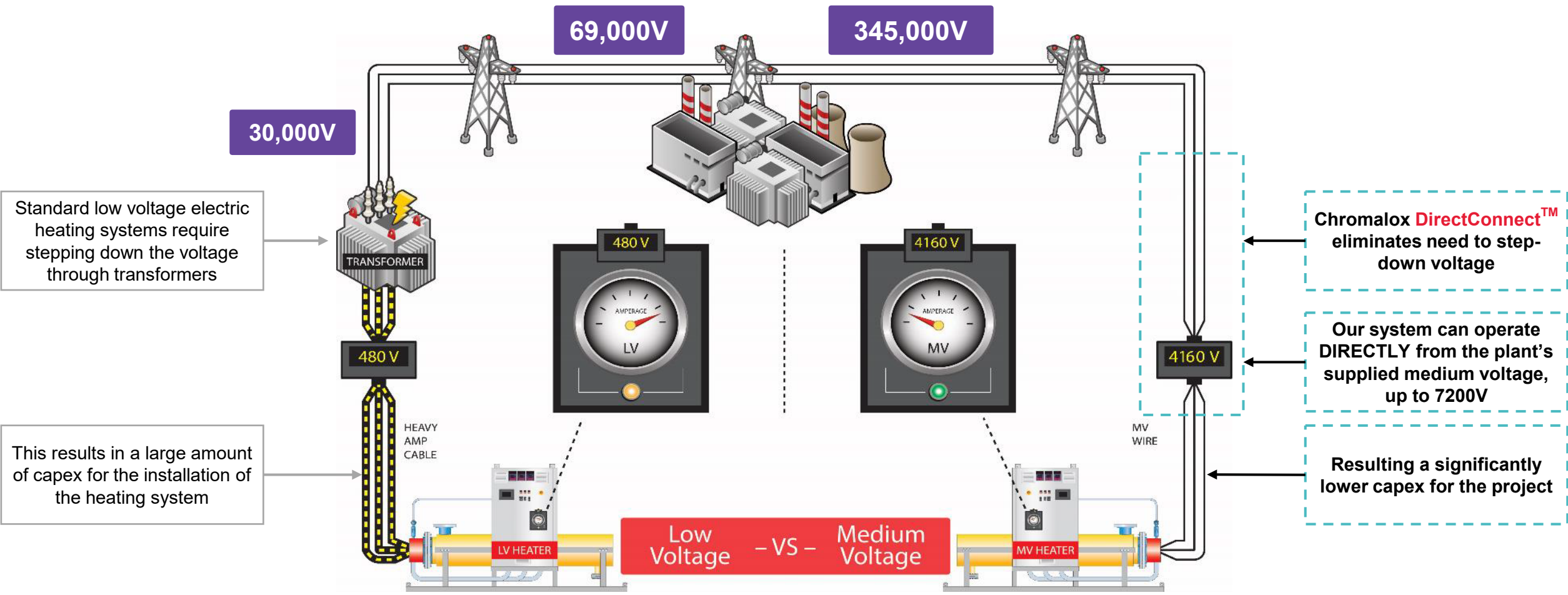
Polymer & Specialty Heating



Integrated Temperature Control

# Technology spotlight: DirectConnect™

Patented Medium Voltage technology

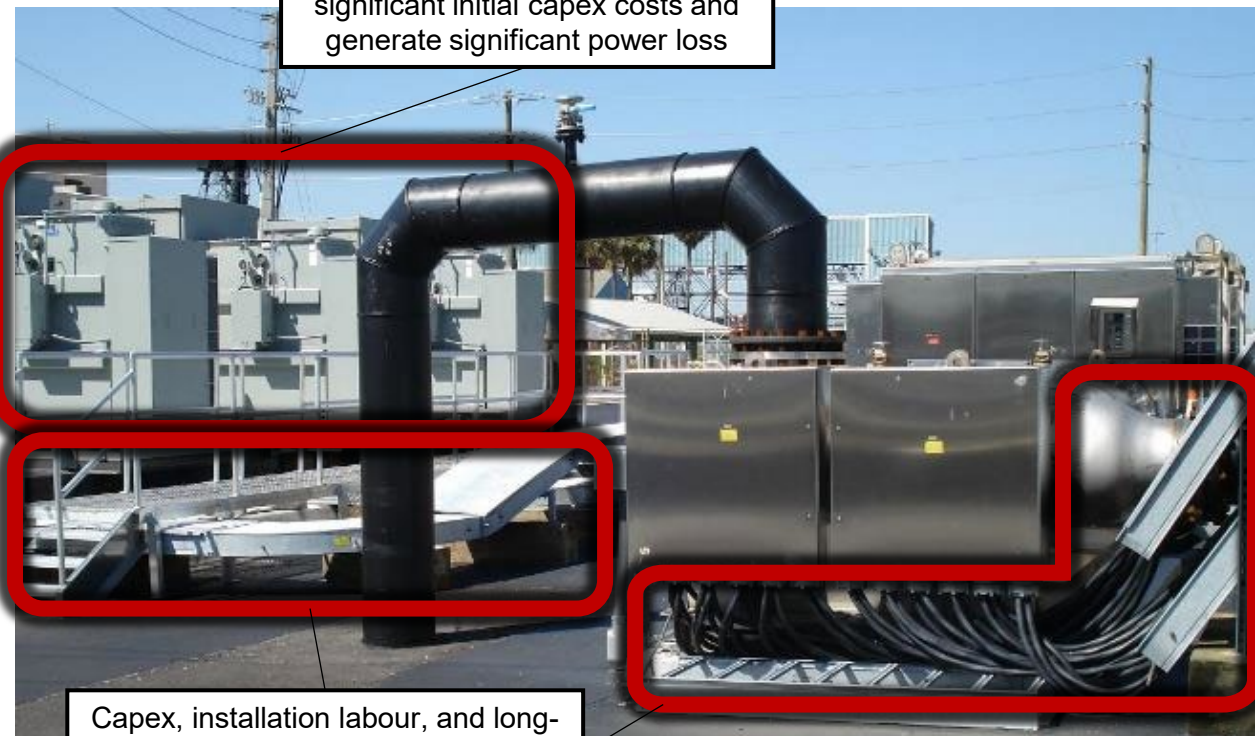




# Technology spotlight: DirectConnect™

A 2.5MW system delivers cost and efficiency benefits

Step-down transformers are a significant initial capex costs and generate significant power loss



Capex, installation labour, and long-term maintenance/risk is much higher for the transmission system

Traditional Low Voltage Solution

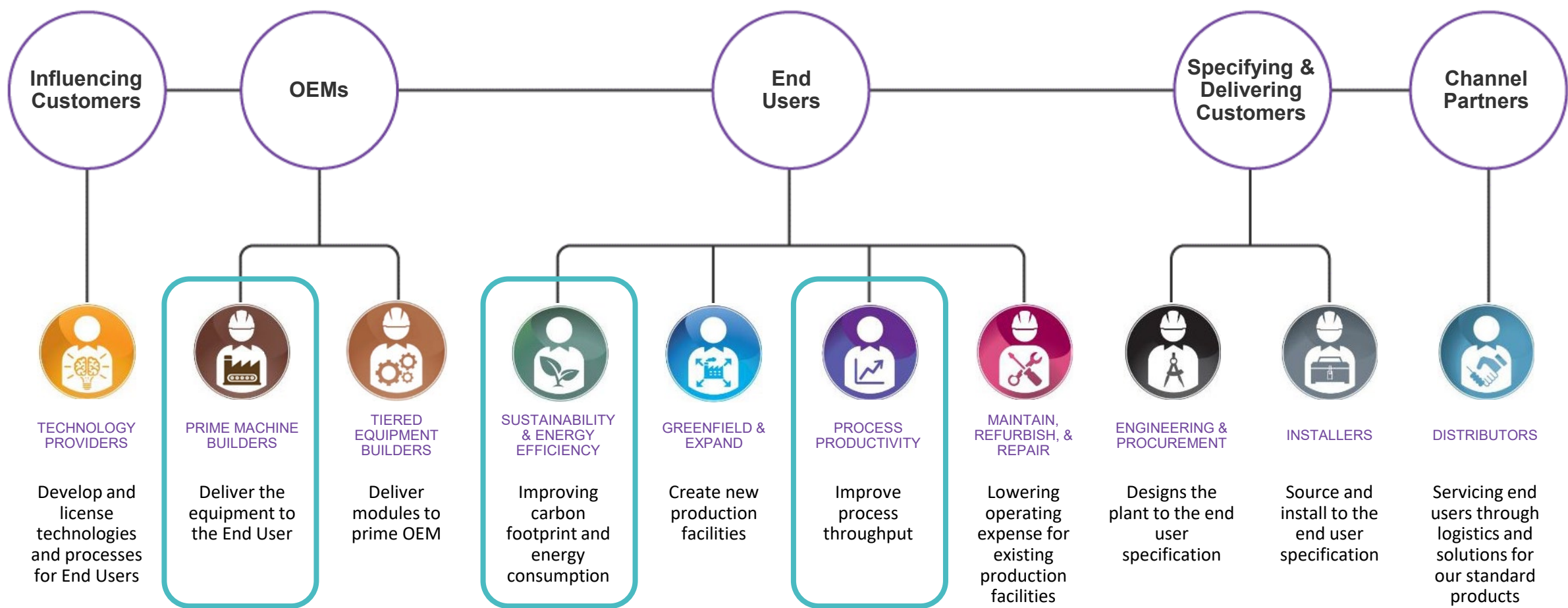
Significantly lower capex costs and increased energy efficiency through MV



Medium Voltage technology

# A focus on solving our customers' problems

Through our Customer Value Propositions (CVPs)





# Delivering against customer objectives

Enabling OEM Prime Machine Builders to deliver world-class capabilities

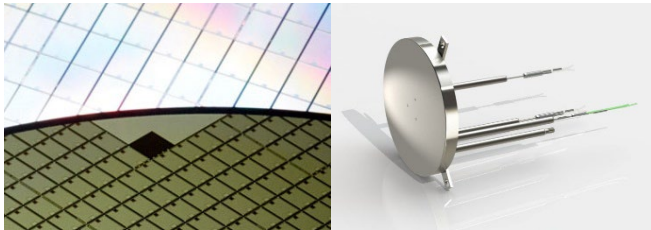


PRIME MACHINE  
BUILDERS

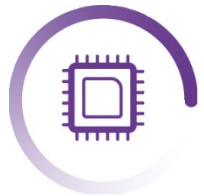
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## Wafer Vacuum Heaters

Unmatched two-dimensional thermal uniformity that maximises the processing yield of semiconductor wafer/chip production



 THERMOCOAX



Semiconductor



## Maxizone Elements

Precise thermal profiles and temperature control produce the highest quality solar panels, maximising their operational efficiency



 **CHROMALOX**  
Advanced Thermal Technologies



Power

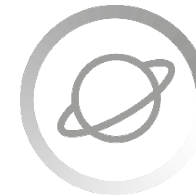


## MI Cable Thruster Coil

Unparalleled reliability to perform in the most extreme environment - the vacuum of space - to maintain critical satellite orbits over our world



 THERMOCOAX



Aerospace & Defence



# Delivering against customer objectives

Maximum productivity and performance for Mission Critical End User applications

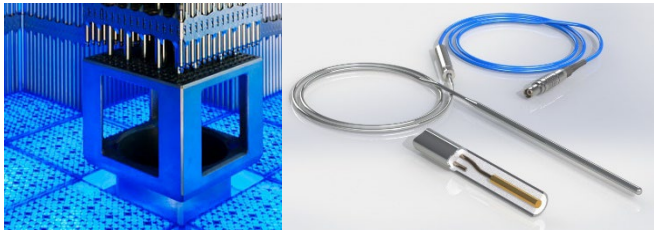


PROCESS  
PRODUCTIVITY

39

## Neutron Flux Detector

Ability to perform at peak performance under intense and long-term radiation to precisely monitor neutron and gamma radiation inside the reactor core



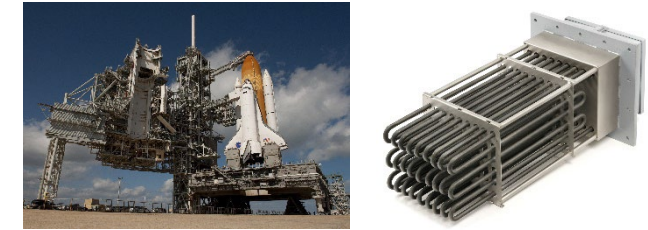
## Pressuriser Heaters

Consistent, dependable operation over a 40 year life and millions of cycles to help modulate and control the rate of reaction in a nuclear power plant



## Nitrogen Purge Systems

Trusted to perform the mission-critical safety function of evacuating explosive gases from the pad prior to ignition, essentially enabling a “go for launch”



 THERMOCOAX



Power



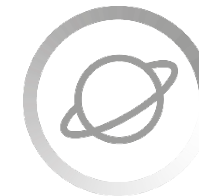
 THERMOCOAX



Power



 **CHROMALOX**  
Advanced Thermal Technologies



Aerospace & Defence



# Delivering against customer objectives

Improving energy efficiency and reducing the carbon footprint for End Users

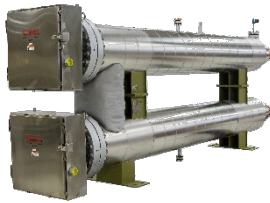


SUSTAINABILITY  
& ENERGY  
EFFICIENCY

40

## Defrost & Regen Heaters

Increased energy efficiency in LNG Liquefaction through MV technology produces a higher round-trip efficiency for the production plant and maximised output to market



## Hot Water Network Solutions

Decarbonisation of district heating through DirectConnect™ and Heat Trace electric systems and renewable power enables true net zero operation of an entire city block



## Electric Steam

Leveraging our MV electric heating systems and renewable power for carbon-free steam production, higher energy efficiencies, and lower energy consumption across all industries

# TargetZero



Oil & Gas



Building & Construction

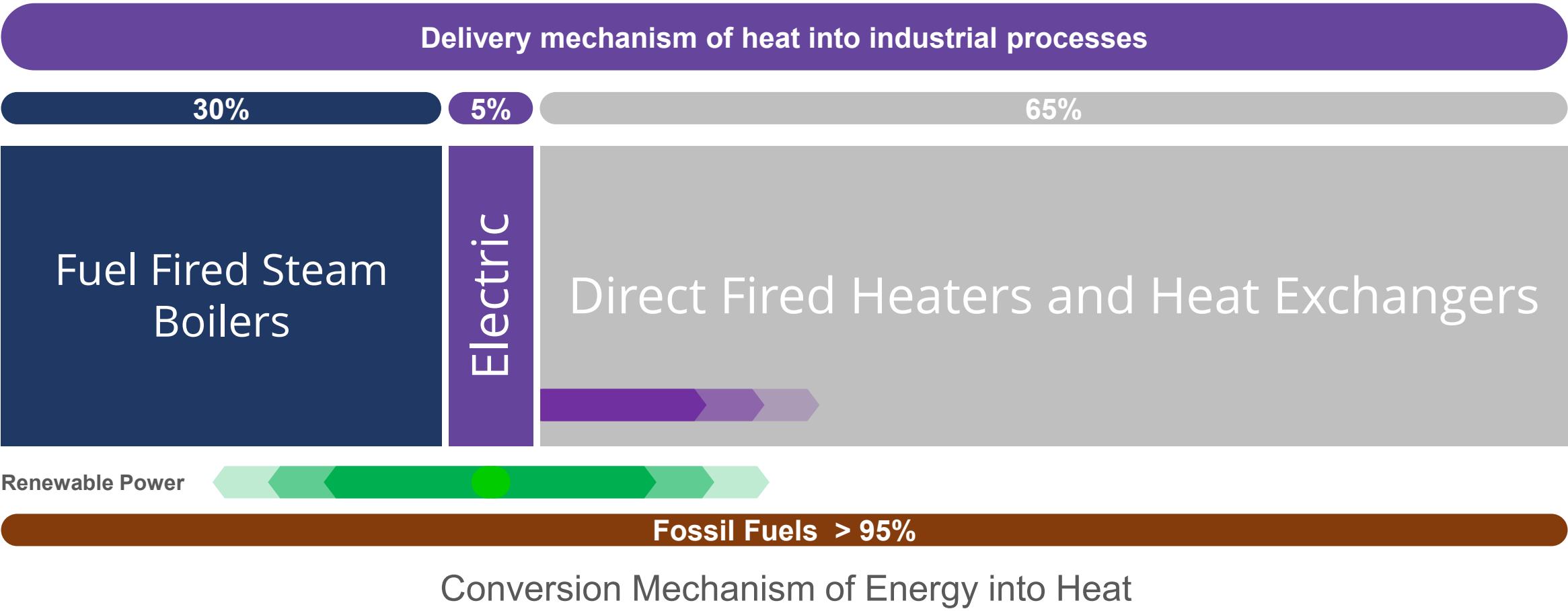


Food & Beverage



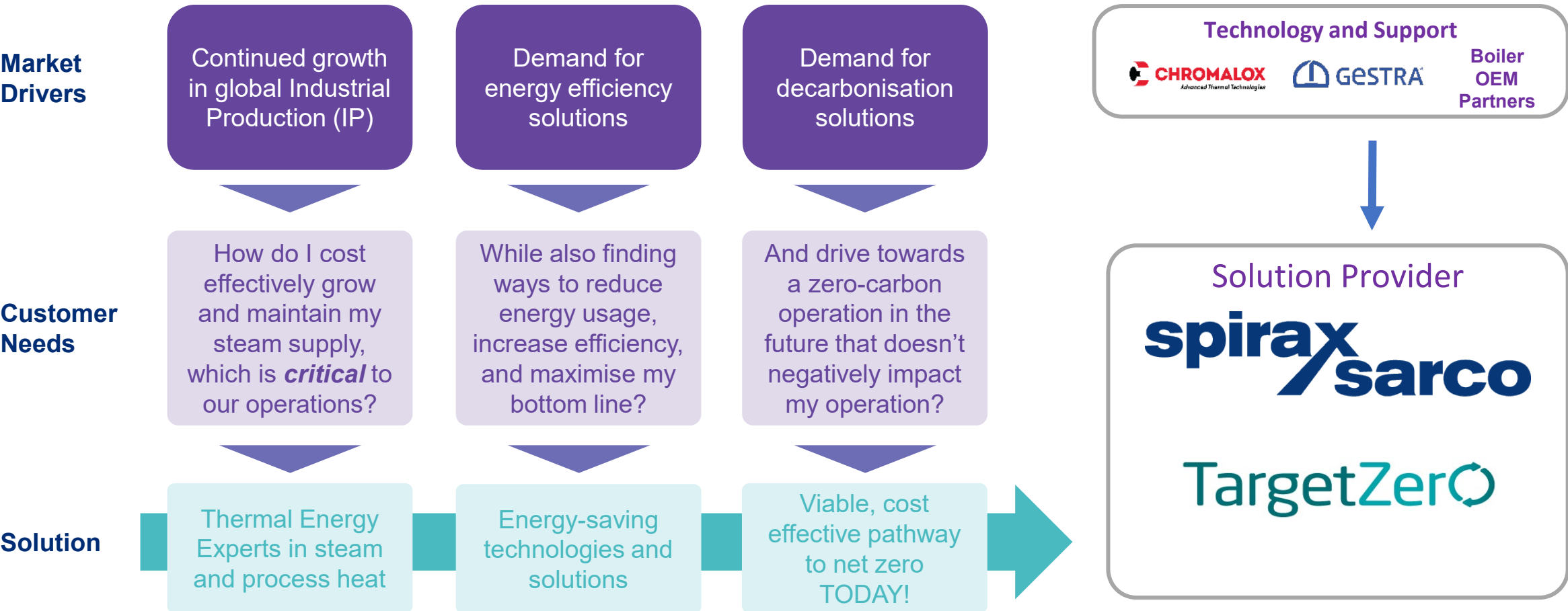
# The ETS opportunity for sustainability

Significant addressable market creation



# TargetZero – solutions for steam decarbonisation

Customer value propositions and general ‘go to market’ approach





# TargetZero

Steam decarbonisation solutions by Spirax-Sarco Engineering



## SteamVolt

LV & MV First Fit Boiler Solution  
*OEM Boiler electric heat and control technology*



## ElectroFit

LV & MV Retro Fit Boiler Solution  
*Conversion of fossil fuel fired boilers to electric.*



## Steam Battery

*Thermal storage capable of generating steam from renewable / off peak electricity*

~500k boilers installed base growing at ~4% per annum

# SteamVolt

Electrification of steam – replacing fuel-fired steam generation with zero emission MV technology

Energy efficient, large capacity electric steam generation for industrial applications.

- The solution for first fit installation or replacement of retired fleet
- Average order size £200-300k





# SteamVolt – case study

Electrification of steam – replacing fuel-fired steam generation with zero emission MV technology

Public University in Canada to become carbon-neutral by 2040.

Replace 20MW of campus' gas-fired steam system with DirectConnect™ MV technology and renewable power.

Will reduce powerhouse emissions by 30%.



# ElectroFit

Electrification of steam – in-situ retrofit of existing fuel fired boilers

Decarbonises steam generation while retaining existing infrastructure and minimising disruption.

- Suitable for retrofit of installed base
- Most suited to fleet aged <20 years (~90% of existing fleet)
- Average order size £100-200k





# ElectroFit – case study

Electrification of steam – in-situ replacement of existing fuel fired boilers

Beverage producer in Turkey to use 100% renewable power by 2030.

Leverage existing 2.3MW of power for steam generation in existing boiler and infrastructure.

Maximise return on decarbonisation investment.



# Steam Battery

Electrification of steam – maximising efficiency

A flexible approach to storing and utilising renewable electrical energy.

- Estimated opportunity of one Steam Battery for every seven electric boilers
- Average order size £200-300k





# Steam Battery – case study

Electrification of steam – maximising efficiency

Steam training centre in UK drives towards net carbon zero goals.

Utilisation of on-site solar and off-peak power to generate low/no carbon steam.

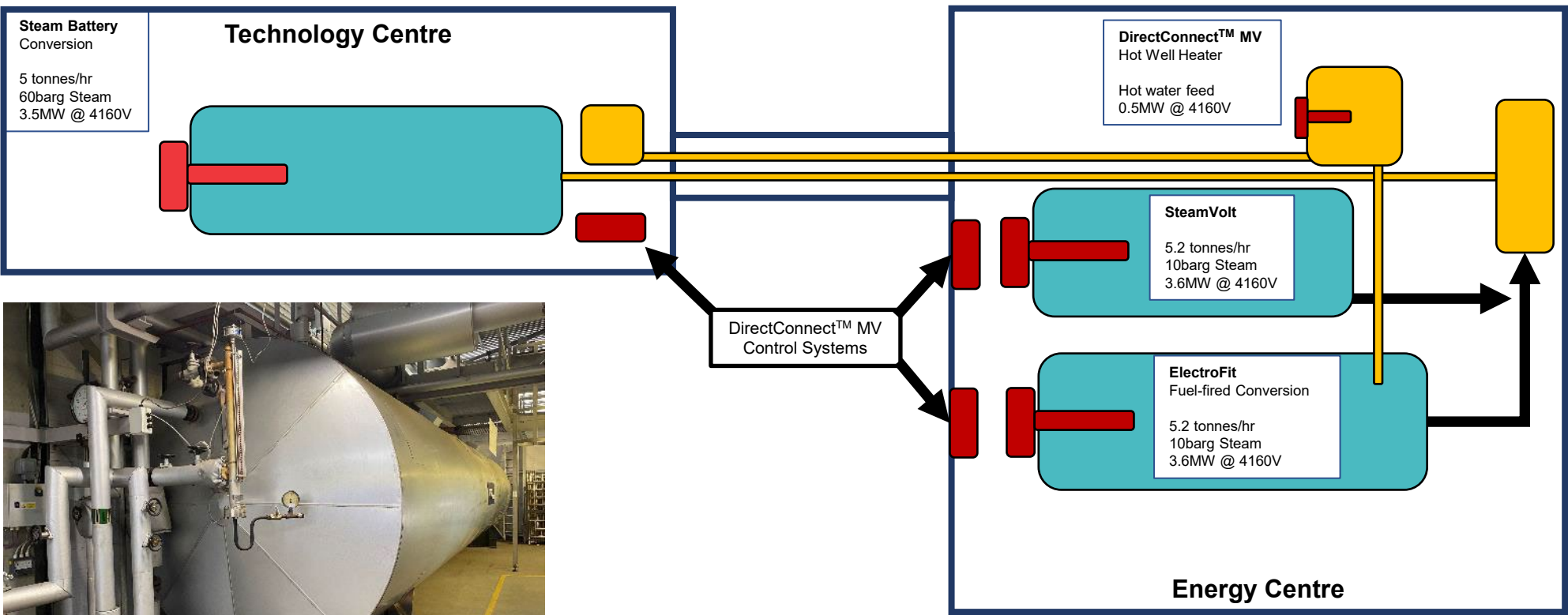
Lower energy demand and higher efficiency through thermal energy storage.





# Project Clear Sky

Decarbonisation of UK manufacturing site – all three technologies in play



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# Drivers of growth

**Investment in Capacity and  
Operational Excellence.**

**Armando Pazos**  
President, ETS



# Global manufacturing footprint





# Manufacturing facility transformation activities

Investing in our future



## Normandy, France

Manufacturing of highly engineered, customised, premium mineral insulated cables and sensors designed for extreme performance in specialised, mission critical OEM applications.



## Nuevo Laredo, Mexico

Specialises in Component Technologies and standardised, higher-volume products. Such as boilers, immersion heaters, comfort heaters, strip and rings, mica band, tubular, and cartridge heaters.



## Ogden, Utah- USA

Vertically integrated manufacturing of large flange heaters, circulation heaters, and integrated systems. Leading our Medium Voltage solutions targeting the decarbonisation of steam and industrial process heating.

# Manufacturing transformation

Thermocoax Normandy transformation completed in 2021



 **PLANQUIVON**  
4,200 m<sup>2</sup>



 **SAINT-GEORGES  
DES GROSEILLERS**  
3,600 m<sup>2</sup>



 **ATHIS VAL-DE-ROUVRE**  
1,000 m<sup>2</sup>



 **SAINT-GEORGES  
DES GROSEILLERS**  
1,800 m<sup>2</sup>



## Thermocoax - 12,000 m<sup>2</sup>

- Capacity expanded by 13% with room for further capacity expansion
- Investment in state-of-the-art equipment
- Safety improvements and efficiency gains through improved flow based on LEAN principles
- Solar panels installed to reduce carbon emissions, biodiversity initiatives including beehives



# Manufacturing transformation

Chromalox Nuevo Laredo transformation completed in 2020



From 10,700 m<sup>2</sup> to 14,700 m<sup>2</sup>



- Capacity expanded by 30% enabling transfer of some product manufacturing from Ogden to relieve some of the constraints there
- Room for further capacity expansion as demand increases
- Investment in state-of-the-art equipment
- Safety improvements and efficiency gains through improved flow based on LEAN principles
- Solar panels installed to reduce carbon emissions
- Grey water recycling introduced

# Ogden transformation plan

Matching the standards of Normandy and Nuevo Laredo



## Current State:

- Ogden specialises in the manufacture of our leading Medium Voltage solutions, utilised in the decarbonisation of industrial process heating.
- Achieving efficiency gains through LEAN improvements and investing in state-of-the-art equipment is important to support current and future demand.
- Plant needs to double production output based on incoming orders and current demand.



## Future state:

- Use LEAN principles to eliminate waste and create flow to increase capacity of existing facility.
- Evaluate expansion plans to continue to grow capacity for Medium Voltage strategy.
- When we expand our footprint in Ogden, sustainable design will be at the forefront (eg) installation of solar panels and utilisation of geothermal for heating and cooling.

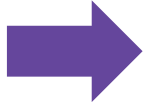


# Becoming the benchmark for sustainable manufacturing

Our key investments and plans to decarbonise our facilities



Investment in onsite Renewable Energy (solar panels) in Nuevo Laredo, Heidelberg and Normandy



Energy savings equivalent to:



187

Passenger vehicles driven for one year



2,156,357

Miles driven by an average passenger vehicle



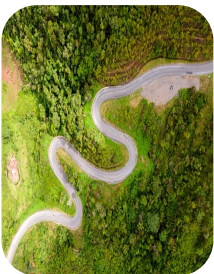
103

Homes' energy use for one year



1,986

Barrels of oil consumed



Net zero Roadmaps for all supply locations to drive energy reduction



Eliminating fossil fuels and transitioning to Green Energy Contracts and Electric Vehicles



# Transformation roadmap

Our journey to 2030

## ETS manufacturing facilities



### Operations in 2030 will be:

- Using LEAN principles to drive flow within the plant
- More automated with modern equipment
- ISO 14001 (Environmental) and ISO 45001 (Safety & Health) certified
- Net zero (Scope 1 & 2)

- Completed
- In progress
- Planned

## ETS in summary

Our strategy is delivering

- Group synergies creating value and driving growth
- Deep customer knowledge and engagement supports increased margins
- Unmatched breadth of products and solutions deployed through strategic sector focus
- Committed to operational excellence, manufacturing transformation and geographic expansion
- Strong demand for our solutions; well positioned for future growth
- Decarbonisation opportunity is significant
- We are uniquely placed; leveraging our patented Medium Voltage technology
- Investing in Ogden to support our future growth in decarbonisation



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# What ETS will deliver

Our plan for sales and  
margin growth.

**William Croyle**  
VP, Finance, ETS



# Foundations for future growth

Investing in innovation, people and sustainable operations



## New product development capability

- Lab expansions and increased testing capability
- Medium Voltage technology development
- 3D printer upgrade to support rapid prototyping



## Commercially driven Research and Development

- R&D incorporated into business development to focus on key projects
- New Director of Technology and Innovation
- R&D headcount increased from 11 to 15 since 2019 (2 funded by Group)



## Supporting function capacity to enable growth

- 34 new positions added since January 2021, across sales, sustainability, finance, HR, IS, engineering
- Employee cost impact in 2021 of ~£2.5m



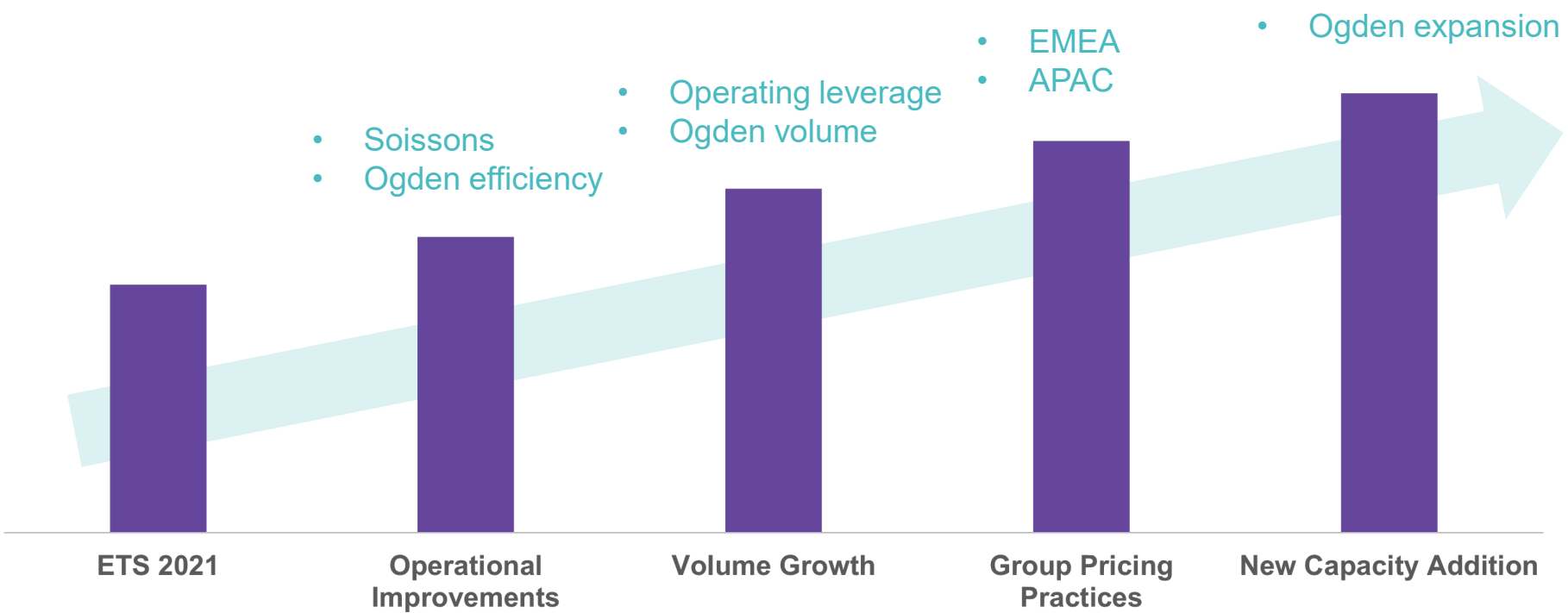
## Modernising and expanding our manufacturing capacity

- Consolidation of 4 sites in Normandy into a state-of-the-art new site (including ~£4m to fit out the new site)
- Transfer of higher volume, less complex product range from Ogden to Nuevo Laredo

# Margin evolution

Pathway to Group level margins

Adjusted Operating Profit Margin (%)



# Outlook

Strong sales and growth; margin improvement 2023 onwards

## Sales Growth



- Demand Growth above rate of Steam Specialties
- Increased sales through operational efficiency

## Margin



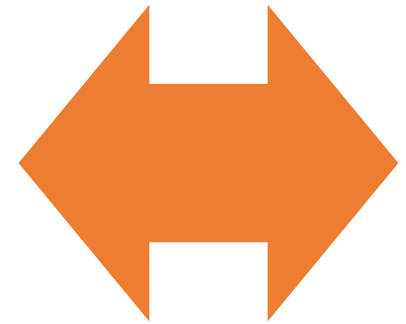
- Conclusion of loss-making activity
- Benefits of operational gearing and plant throughput

## Capex



- Investments related to safety and sustainability
- Step-up in capex to fund Ogden capacity increase
- Investment in ERP to support future growth

## Cash Conversion



- Broadly flat in near-medium term as capex steps up
- Reverts to Group levels post Ogden and ERP investment



# Re-cap



## Re-cap

### Our key messages

- We are a resilient Group with attractive long term growth prospects
- ETS is fundamentally a growing and high margin business
- Near term focus on delivering operational improvements and driving increased capacity
- Continued investment in the organisation and operations to deliver Group level growth and margins
- Significant addressable market growth from decarbonisation, over at least a 30 year period
- A key driver of our long term ability to deliver growth greater than 2xIP

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# Thank you

